

EXHIBIT 168

to Space Data's Opposition to Defendants'
Motion for Summary Judgment

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

SPACE DATA CORPORATION,

Plaintiff,

v.

ALPHABET INC., et al.,

Defendants.

Case No. 16-cv-03260-BLF

**ORDER CONSTRUING CLAIMS IN
U.S. PATENT NOS. 6,628,941; 9,632,503;
9,643,706; 9,678,193**

[Re: ECF 250, 263, 267]

Plaintiff Space Data Corporation (“Space Data”) brings this lawsuit against Defendant Alphabet Inc., Google LLC, and Loon LLC¹ (collectively, “Google”), alleging various claims including infringement of four of Space Data’s patents directed to wireless communication technology using high-altitude balloons: U.S. Patent Nos. 6,628,941 (“the ’941 patent”); 9,632,503 (“the ’503 patent”); 9,643,706 (“the ’706 patent”); and 9,678,193 (“the ’193 patent”) (collectively, the “Asserted Patents”). The Court held a tutorial on July 20, 2018 and a *Markman* hearing on July 27, 2018. The Court further allowed the parties to meet and confer to discuss whether they agreed on construction of certain terms and to submit supplemental briefing on one term. ECF 305. The parties submitted their supplemental briefing and Joint Letter Brief reporting their meet and confer. *See* Defs.’ Suppl. Br., ECF 319, Pl.’s Suppl. Br., ECF 326; Joint Letter Br., ECF 318.

¹ After the *Markman* hearing, the parties filed a stipulation stating that they agreed to allow Space Data to add Loon LLC as a defendant. ECF 339. The Court granted the parties’ stipulation. ECF 340. Thereafter, Space Data filed the Fourth Amended Complaint adding Loon LLC as a defendant. ECF 344.

C. “(determining/determine) a desired movement of the (target balloon/balloon) based on the determined locations of the one or more neighbor balloons relative to the determined location of the (target balloon/balloon’s determined location)” (’193 patent: claims 1 and 17)

Space Data’s Proposal ³	Google’s Proposal	Court’s Construction
(determining/determine) how to move the balloon based on its location relative to the locations of one or more neighbor balloons to manage a fleet of balloons	(determining/determine) how to reposition the balloon based on its location relative to the locations of one or more neighbor balloons to achieve a desired formation of balloons	(determining/determine) how to move the (target balloon/balloon) based on its location relative to the locations of one or more neighbor balloons to manage a fleet of balloons

The parties dispute the following phrases in the ’193 patent:

“determining a desired movement of the target balloon based on the determined locations of the one or more neighbor balloons relative to the determined location of the target balloon” (claim 1); and

“determine a desired movement of the balloon based on the determined locations of the one or more neighbor balloons relative to the balloon’s determined location” (claim 17).

The two disputed phrases are identical except that claim 17 recites “determine” instead of “determining” and “balloon” instead of “target balloon.” Thus, the Court addresses the two phrases together as the parties have done in their briefs. Claim 1 is representative and recites:

1. A method comprising:

determining a location of a target balloon;

determining locations of one or more neighbor balloons relative to the determined location of the target balloon, wherein the target balloon comprises a communication system that is operable for data communication with at least one of the one or more neighbor balloons;

determining a desired movement of the target balloon based on the determined locations of the one or more neighbor balloons relative to the determined location of the target balloon, wherein the desired movement of the target balloon comprises a desired horizontal movement of the target balloon; and

controlling the target balloon based on the desired movement of the target balloon, wherein controlling the target balloon based on the desired movement of the target balloon comprises controlling an altitude of the target balloon based on the desired horizontal movement of the target balloon.

³ The parties have submitted revised proposed constructions to narrow the dispute of this term. Joint Letter Br. 1–2. Thus, while the Court considers the arguments contained in the parties’ briefs, it does not assess the originally proposed constructions set forth therein.

’503 patent at 9:49–10:19 (emphasis added).

As a preliminary issue, the Court notes that both parties’ arguments rely on the language in Google’s U.S. Patent No. 8,820,678 (the “’678 patent”). In 2015, Space Data initiated a PTO interference proceeding and asserted that the claims in Patent Application No. 14/328,331 (the “’331 application”) had priority over those in Google’s ’678 patent. *See* Summary Judgment Order, ECF 255. Google did not contest priority and the PTO’s Patent Trial and Appeal Board (“PTAB”) issued a ruling in Space Data’s favor. *Id.* As a result, Space Data’s ’331 application issued as the ’193 patent which contains the disputed phrases at issue.

While citing to the ’678 patent, the parties provide no authority showing that the Court is required to construe the ’193 patent claims in light of the disclosure of the ’678 patent. The Court finds that Federal Circuit law provides guidance that it is proper to construe the disputed term in light of the ’193 patent as opposed to the ’678 patent. While not directly on point, in the context of an interference proceeding, Federal Circuit law provides that the PTO and district court must construe a claim with reference to the specification in which it appears not the one it was copied from, for § 102 or § 103 challenges. *Agilent Techs., Inc. v. Affymetrix, Inc.*, 567 F.3d 1366, 1375 (Fed. Cir. 2009); *see also Koninklijke Philips Elecs. N.V. v. Cardiac Sci. Operating Co.*, 590 F.3d 1326, 1335–56 (Fed. Cir. 2010). It is only when the issue is “whether both parties have a right to claim the same subject matter [(i.e., when written description for an interference count is challenged)], the claim construction analysis properly occurs in the context of the specification from which the claim[] [was] copied.” *Agilent*, 567 F.3d at 1375. Here, the issue is not whether Space Data has the right to claim the subject matter in the ’678 patent,⁴ and thus it is proper to construe claims of the ’193 patent based on its own specification. Nevertheless, the parties’ interference proceeding which concerned the ’678 patent is part of the intrinsic record of the ’193 patent. Thus, this Court may consider the disclosure of the ’678 patent as part of the prosecution history. During the hearing, Google admitted that the ’678 patent is “instructive” evidence. Hearing Tr. 53:25.

⁴ That issue could have been presented to the PTAB during the interference proceeding.

Against this backdrop, the Court turns to the parties' revised constructions in their Joint Letter Brief which differ in two aspects: (1) "move" versus "reposition"; and (2) "to manage a fleet of balloons" versus "to achieve a desired formation of balloons." Joint Letter Br. 1–2. Space Data proposes the former while Google suggests the latter.

Space Data argues that its construction makes clear that the purpose of moving the target balloon relative to other balloons is to "manag[e] a group of balloons." Joint Letter Br. 1. In Space Data's view, the "fleet" captures this concept because that word is defined as "a group (as of ships, planes, or trucks) operated under unified control." *Id.* (citing *Merriam-Webster.com*, Merriam-Webster (Aug. 6, 2018)). According to Space Data, Google contends that "a desired formation" is the proper construction because "it captures the idea of trying to keep particular spacing between the balloons." *Id.* at 1–2. Space Data asserts that claims 1 and 17 do not require a particular spacing and that the "formation" language improperly excludes dependent claims 7, 8, and 9, which recite that the desired movement comprises "direction," "velocity," and "distance of travel." *See id.* at 2. Space Data also claims that "[a]chieving a particular network topology is just one possible goal of managing a fleet of balloons." *Id.*

Google counters that the determination of the "desired movement" is driven by the "desired network topology"—the "formation of balloons that one seeks to accomplish." Joint Letter Br. 2. According to Google, the "desired movement" language does not require a particular spacing but must serve the purpose of maintaining a desired network topology. *Id.* (citing '678 patent, Abstract, 7:48–55). Google also contends that the '678 patent repeatedly states that the purpose of the invention is to "maintain a desired network topology." *See* Responsive Br. 18. Google further argues that Space Data attempts to inject the concept of fleet management without any basis. Joint Letter Br. 2.

The parties provide no argument whether "move" or "reposition" should be included in the construction. In the context of the claims, there is no meaningful difference between those words. Nevertheless, the Court finds that using "move" in the construction will better instruct and less confuse the jury as other limitations of claims 1 and 17 reference the "movement" of the "target balloon" (or "balloon") and thus there will be consistency between the claim limitations. The

1 Court thus adopts “move” instead of “reposition.”

2 Regarding the last limitation of the parties’ proposals, the Court is unpersuaded by
3 Google’s arguments that “to achieve a desired formation of balloons” is the proper construction.
4 To the extent that Google asserts that claims 1 and 17 require moving the target balloon to achieve
5 a rigid network topology, let alone an even spacing between the balloons, the Court rejects that
6 assertion. As Space Data contends, the ’193 patent discloses determining communication
7 coverage gaps and making “rudimentary position adjustments [of the balloons] by varying the
8 altitude into favorable wind speeds and directions.” Reply Br. 12 (citing ’193 patent at 34:8–11);
9 see also ’193 patent at 12:8–9 (disclosing that weather data can be used to control the altitude of
10 individual balloons to “catch favorable prevailing winds to help fill gaps in coverage”). Space
11 Data also pointed this out during the interference proceedings. See Ex. 3 to Heaton Decl. 3, 8,
12 ECF 267-5. On the other hand, the specification does not disclose that those embodiments require
13 maintaining a specific network topology. As such, Google’s suggestion is improper as it limits the
14 embodiments disclosed in the specification. See *Accent Packaging, Inc. v. Leggett & Platt, Inc.*,
15 707 F.3d 1318, 1326 (Fed. Cir. 2013) (“[A] claim interpretation that excludes a preferred
16 embodiment from the scope of the claim is rarely, if ever, correct.”).

17 The Court is also unconvinced by Google’s reliance on the ’678 patent’s disclosure that the
18 balloons may be adjusted relative to another to maintain a desired network topology. As discussed
19 above, the Court must construe the claims in light of the specification of the ’193 patent rather
20 than the ’678 patent. The fact that the ’678 patent discloses the goal to achieve a desired network
21 topology does not mean that the claims in dispute must exclude embodiments covered by the ’193
22 patent.

23 As a final point, the Court finds that Space Data’s proposal to include “to manage a fleet of
24 balloons” in the construction is appropriate. While the ’193 patent does not use the word “fleet,”
25 it discloses controlling balloons in a constellation of airborne communications platforms. See,
26 e.g., ’193 patent at 12:8–14, 34:8–11. As Space Data argues, “fleet” is a well-known term that
27 means “a group . . . operated under unified control.” Joint Letter Br. 1 (citing *Merriam-*
28 *Webster.com*, Merriam-Webster (Aug. 6, 2018)).

For the foregoing reasons, the Court adopts Space Data's proposed construction.

D. "mesh network of balloons" ('193 patent: claims 4 and 17)

Space Data's Proposal ⁵	Google's Proposal	Court's Construction
network of balloons in which each balloon is operable to receive data directed to it and route data to other balloons, thereby permitting redundancy	network of balloons in which each balloon can receive data from and route data to other balloons, thereby permitting redundancy	network of balloons in which each balloon can receive data from and route data to other balloons, thereby permitting redundancy

The disputed phrase "mesh network of balloons" appears in claims 4 and 17 of the '193 patent. Claim 17 is representative:

17. A balloon, comprising:

a communication system operable for data communication with one or more other balloons in a **mesh network of balloons**; and

a controller coupled to the communication system, wherein the controller is configured to:

(a) determine the balloon's location;

(b) determine locations of one or more neighbor balloons relative to the balloon's determined location, wherein the one or more neighbor balloons are in the **mesh network of balloons**; and

(c) determine a desired movement of the balloon based on the determined locations of the one or more neighbor balloons relative to the balloon's determined location, wherein the desired movement of the balloon comprises a desired horizontal movement of the balloon; and

(d) control the target balloon based on the desired movement of the target balloon by controlling an altitude of the target balloon based on the desired horizontal movement of the target balloon.

'193 patent at 52:5–25 (emphasis added).

The Court has reviewed the parties' arguments in their Joint Letter Brief. The differences between the proposed constructions are two-fold: (1) "is operable to" versus "can"; and (2) "directed to it" versus "from." Space Data proposes the former while Google advocates for the latter.

⁵ The parties have submitted revised proposed constructions to narrow the dispute of this term. Joint Letter Br. 2–3. Thus, while the Court considers the arguments contained in the parties' briefs, it does not assess the originally proposed constructions set forth therein.


('941 patent: claim 7)	<i>Instruments</i> , 134 S. Ct. 2120 (2014). (Claim 7 depends from claim 2, which further depends on independent claim 1 which is invalid for indefiniteness)
“(determining/determine) a desired movement of the target balloon based on the determined locations of the one or more neighbor balloons relative to the determined location of the target (balloon/balloon’s determined location)”	(determining/determine) how to move the (target balloon/balloon) based on its location relative to the locations of one or more neighbor balloons to manage a fleet of balloons
('193 patent: claims 1 and 17)	
“mesh network of balloons”	network of balloons in which each balloon can receive data from and route data to other balloons, thereby permitting redundancy
('193 patent: claims 4 and 17)	
“wherein at least one of the geographical coordinates tracking system comprises a GPS”	Indefinite: lack of antecedent basis
('503 patent: claims 1, 6, 15, and 20; '706 patent: claim 29)	
“substantially drifts along with the wind current taking into account the wind currents to prevent the airborne platform from becoming an uncontrolled lighter-than-air airborne platform”	Indefinite: lack of antecedent basis (Claim 28 depends from independent claim 20 which is invalid for indefiniteness)
('503 patent: claim 28)	

The Court also adopts the following constructions that the parties agreed in their stipulation:

Term	Agreed Construction
“free floating” ('941 patent: claims 1, 2, 7, 17, 27, 40, 49, 52, and 67; '503 patent, claims 8 and 9)	plain meaning
“without any longitudinal and latitudinal control” ('941 patent: claims 1, 52, and 67)	without any horizontal control other than adjusting altitude to catch and drift with different wind patterns

IT IS SO ORDERED.

Dated: September 6, 2018


BETH LABSON FREEMAN
United States District Judge